

THE DISTRIBUTION OF *SARRACENIA* IN LOUISIANA, WITH DATA ON ITS ABUNDANCE IN THE WESTERN PART OF THE STATE

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ABSTRACT

Sarracenia occurs in bogs in southeastern and western Louisiana. Bogs are locally common but few have escaped damage and the vast majority have been destroyed or are degraded.

KEY WORDS: Bog, pitcher plants, *Sarracenia*, Sarraceniaceae, Louisiana

INTRODUCTION

There has been almost nothing published on the distribution, abundance, or condition of bogs in Louisiana. So little attention has been paid to this plant community that as late as 1977, Folkerts, in his extensive review of endangered and threatened carnivorous plants of North America was unable to determine whether or not *Sarracenia alata* Wood, the *sine qua non* of bog indicator species in Texas and Louisiana, was endangered west of the Mississippi River delta – a point reiterated more recently by Frost, *et al.* (1986). As part of a continuing study of bogs, we present information on the distribution and abundance of *Sarracenia* in Louisiana (MacRoberts & MacRoberts 1988, 1990a, 1990b).

METHODS

We examined all specimens of *Sarracenia* (254 sheets) in Louisiana herbaria and in several national collections (DUKE, GH, LAF, LSU, LSUE, LSUS, LTU, MO, NATC, NLU, NO, NOLS, SFRP, US, USLH), and studied the literature on *Sarracenia* distribution (McDaniel 1971; Murry & Urbatsch 1979). In order to estimate abundance, we surveyed bogs in Natchitoches Parish.

RESULTS AND DISCUSSION

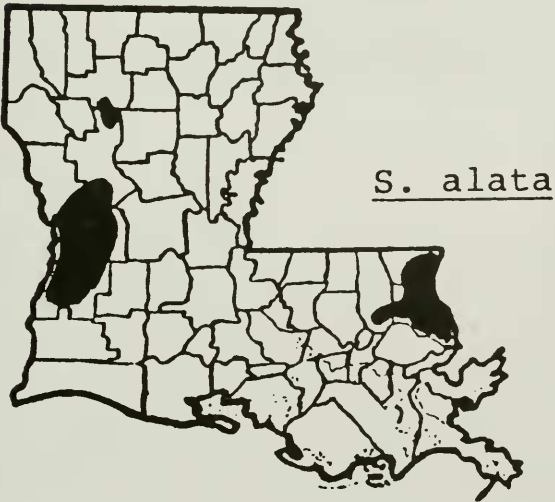
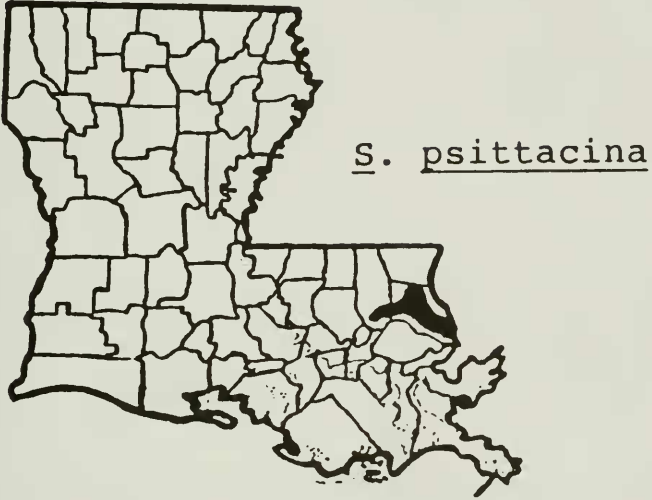
Figure 1 shows the distribution of *Sarracenia alata* and *S. psittacina* Michx. in Louisiana. *Sarracenia alata* occurs in five western and three southeastern parishes, and *S. psittacina* occurs in two southeastern parishes (Appendix 1). In the west, pitcher plant populations occur in southern Natchitoches Parish and are scattered throughout Vernon and Beauregard parishes. *Sarracenia alata* also occurs in a few localities in southern Sabine Parish. Other populations occur in three localities in northern Natchitoches and in one locality in southern Bienville Parish. In southeastern Louisiana, *S. alata* occurs in Tangipahoa, Washington, and St. Tammany parishes. *Sarracenia psittacina* occurs in Tangipahoa and St. Tammany parishes.

Only *Sarracenia alata* occurs in western Louisiana and reports of other taxa can be discounted. In a few bogs in the vicinity of Highway 117 near the Natchitoches-Vernon Parish boundary, several *Sarracenia* species (*S. psittacina*, *S. minor* Walt., *S. leucophylla*) have been introduced. The report of *S. flava* L. from Lincoln Parish (Roland 1966) is an error. We examined these specimens (*Rabum s.n.* [LTU]) and found that they are all *S. alata* that had been planted on a pond bank (Hartsell 1980; Don Rhodes, pers. comm.). The *S. flava* reported by Correll & Correll (1941) for Natchitoches and Tangipahoa parishes (Correll & Correll 9762, 10540 [DUKE]) are both *S. alata*. Featherman (1872) reported *S. flava* from Calcasieu Parish (see Murry & Urbatsch 1979). We examined this specimen (*Featherman s.n.* [LSU]); it is *S. alata*. Further, although the specimen is labeled "Calcasieu," in 1871 when it was collected, Calcasieu included what today comprises four parishes: Calcasieu, Beauregard, Allan, and Jefferson Davis. As no *Sarracenia* have been found more recently in Calcasieu Parish (Joe Bruce, pers. comm., Steve Orzell, pers. comm.), the Featherman specimen probably came from what is now Beauregard Parish. Pitcher plants have been reported also from Rapides Parish (Allen, *et al.* 1988). However, we could find no voucher specimen for that parish, and Allen (pers. comm.) acknowledged the report to have been in error although what appears to be habitat suitable to *Sarracenia* is not lacking in Rapides Parish. In southeastern Louisiana, Brown (1972) reports *S. psittacina* from Washington Parish and MacRoberts (1989) reiterates. However, we could find no voucher specimen for that parish. We have had verbal reports of *S. alata* occurring in Red River and Rapides parishes, but we were unable to find voucher specimens or to verify its occurrence in the field at reported locations.

There are two voucher specimens of *Sarracenia purpurea* L. for Louisiana (MacRoberts & MacRoberts 1988). Both were collected in the last century and come from the southeastern part of the state. One comes from St. Tammany Parish but, unfortunately, the exact location of the other one is not known.

How common is *Sarracenia alata* in Louisiana? In the western part of the state, it is confined to bogs (see Appendix 2). Bridges & Orzell (1989) surveyed

Fig. 1. Distribution of Sarracenia.



99 relatively high quality (less disturbed) bogs in the longleaf pine region of southeastern Texas and southwestern Louisiana and found *S. alata* in 68% of them. We are conducting a survey of bogs in the Kisatchie District of the Kisatchie National Forest in southern Natchitoches Parish and found *S. alata* in 33 (24%) of 140 bogs as of 11 February 1991. The difference in frequency of *S. alata* in bogs in these two studies is probably due to a combination of different surveying methods, variation in definitions of "bogs," and the fact that our survey has been confined to the extreme northern range of the species.

Bogs are small, ranging in Natchitoches Parish up to 4 ha but averaging less than 1 ha. The 33 bogs in Natchitoches Parish that have *Sarracenia* are about average in size. The bogs examined by Bridges & Orzell (1989: 254) appear to be about the same size as these. Therefore, bog habitat and bogs with *Sarracenia* are not particularly common. More important, however, as Bridges & Orzell (1989) emphasize, there are only a few relatively undisturbed (high quality) bogs left, the majority having been either destroyed or degraded beyond recovery. Of those that are in good condition, many are threatened by ditching, farming, grazing, logging, and fire suppression. Fortunately, recent conservation efforts in both Louisiana and Texas have resulted in the preservation of some of the best examples of bogs (Anon. 1990; Fritz & Alford 1986; Parvin 1989).

There is no published information on the status of *Sarracenia* populations in southeastern Louisiana (Folkerts 1982). From our own observations and from talking with botanists and naturalists, the savannah and hillside bogs where *Sarracenia* grow are vanishing rapidly from the same causes that have affected the western bogs (Rebertus & Barker 1984). Efforts should be made to secure some of this habitat.

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APPENDICES

Appendix 1.

The following is a parish list of *Sarracenia alata* with one voucher specimen cited per parish: Beauregard, *Thomas 24021* (NLU); Bienville, *Holmes 3852* (NLU); Natchitoches, *Lynch 2033* (LSU); Sabine, *Carroll 1777* (NLU); St. Tammany, *Kral 16512* (LAF); Tangipahoa, *Cruz & Landry s.n.* (LAF); Vernon, *Givens 2000* (LSU); Washington, *Adams 1724* (LTU). The parishes with documented *Sarracenia psittacina* are: St. Tammany, *Thieret 23374* (LAF); and Tangipahoa, *Brown 18370* (LSU).

Appendix 2.

Bog habitat terminology has not been standardized in Louisiana or in the Southeast, and it probably will not be for some time (see Craig, *et al.* 1987; Smith 1988; Bridges & Orzell 1989; Frost, *et al.* 1986). We do not undertake to add to terminological problems here, but lump all types and proposed types of bog under the simple label "bog."

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